



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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September 11, 2013

To: Interested Parties

From: Josh Gruber, Fish Biologist, Red Bluff Fish and Wildlife Office

Subject: Biweekly report (August 27, 2013 - September 9, 2013)

Please find attached preliminary daily estimates of passage, 90% confidence intervals, and fork length ranges of juvenile salmonids sampled at Red Bluff Diversion Dam for the period August 27, 2013 through September 9, 2013. Race designation was assigned using length-at-date criteria.

This report also contains graphical displays of salmonid passage dating back to 2006 for comparison.

Please note that data contained in these reports is subject to revision as this data is preliminary and undergoing QA/QC procedures.

If you have any questions, please feel free to contact me at (530) 527-3043 ext 233.

Table 1.— Preliminary estimates of passage by brood-year (BY) and run for unmarked juvenile Chinook salmon and steelhead trout captured by rotary-screw traps at Red Bluff Diversion Dam (RK391), Sacramento River, CA, for the dates listed below. Results include estimated passage, peak river discharge volume, water temperature, turbidity, and fork length (mm) range in parentheses. A dash (-) indicates that sampling was not conducted on that date.

Date	Discharge volume (cfs) ¹	Water temperature (°C)	Water turbidity (NTU)	Estimated passage				
				BY13 Winter	BY12 Spring	BY12 Fall	BY13 Late-Fall	BY13 RBT
8/27/2013	9,510	15.3	1.4	1,716 (33 – 39)	0 (–)	313 (104 – 131)	197 (67 – 86)	751 (43 – 115)
8/28/2013	9,240	15.4	1.1	766 (33 – 41)	0 (–)	469 (94 – 136)	245 (66 – 86)	477 (36 – 90)
8/29/2013	9,130	15.6	1.2	2,599 (32 – 43)	0 (–)	176 (95 – 113)	36 (84)	885 (38 – 131)
8/30/2013	8,950	15.3	1.4	3,189 (30 – 42)	0 (–)	495 (90 – 116)	344 (65 – 88)	840 (43 – 128)
8/31/2013	8,700	15.4	1.1	2,145 (30 – 48)	0 (–)	284 (91 – 120)	214 (66 – 90)	460 (51 – 83)
9/1/2013	8,120	15.3	1.2	1,830 (28 – 46)	0 (–)	74 (113 – 126)	74 (77 – 87)	549 (48 – 102)
9/2/2013	8,060	15.2	–	–	–	–	–	–
9/3/2013	8,010	15.5	–	–	–	–	–	–
9/4/2013	8,010	15.4	1.0	4,807 (33 – 39)	0 (–)	64 (94 – 106)	98 (70 – 87)	459 (52 – 100)
9/5/2013	8,010	15.3	1.1	6,723 (29 – 38)	0 (–)	328 (94 – 120)	98 (76 – 91)	295 (38 – 96)
9/6/2013	8,030	15.2	1.0	6,969 (31 – 40)	0 (–)	204 (96 – 119)	204 (76 – 94)	170 (54 – 92)
9/7/2013	8,030	15.2	1.2	6,802 (30 – 43)	0 (–)	162 (99 – 126)	194 (59 – 93)	356 (55 – 113)
9/8/2013	8,030	15.1	1.0	8,701 (29 – 50)	0 (–)	228 (98 – 121)	97 (70 – 91)	260 (54 – 107)
9/9/2013	7,980	15.3	1.0	4,900 (32 – 45)	0 (–)	206 (105 – 120)	34 (90)	135 (55 – 77)
Biweekly Total ²				59,672	0	3,504	2,141	6,577
<i>Biweekly Lower 90% Confidence Interval</i>				45,611	0	2,158	1,175	4,533
<i>Biweekly Upper 90% Confidence Interval</i>				73,732	0	4,849	3,107	8,620
Brood Year Total				83,823	300,752	23,659,825	34,282	158,051
<i>Brood year Lower 90% Confidence Interval</i>				60,274	168,984	16,498,284	14,272	89,253
<i>Brood year Upper 90% Confidence Interval</i>				107,372	432,521	30,821,366	54,292	226,848

¹ Peak daily discharge values do not account for diversions at RBDD and only represent peak flows registered at the Bend Bridge Gauging station (<http://cdec2.water.ca.gov/cgi-progs/queryFx?bnd>).

² Biweekly totals may be greater than the sum of the daily estimates presented in this table if sampling was not conducted on each day of the biweekly period. A dash (-) denotes those dates. To estimate daily passage for days that were not sampled, we impute missed sample days with the weekly mean value of days sampled within the week.

Juvenile Winter Chinook Salmon Estimated Passage

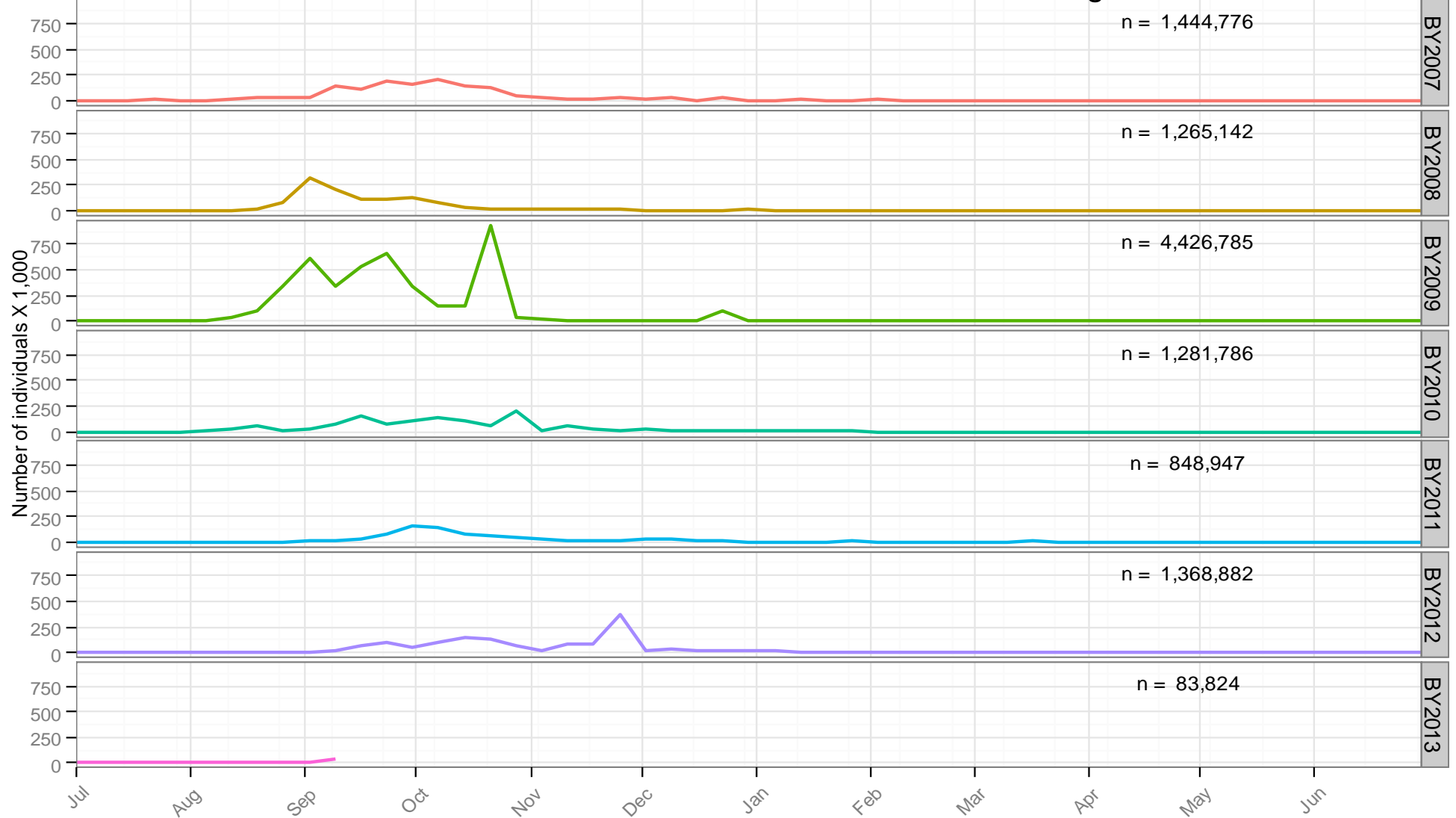


Figure 1. Weekly estimated passage of juvenile winter Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1 2007 to present .

Juvenile Spring Chinook Salmon Estimated Passage

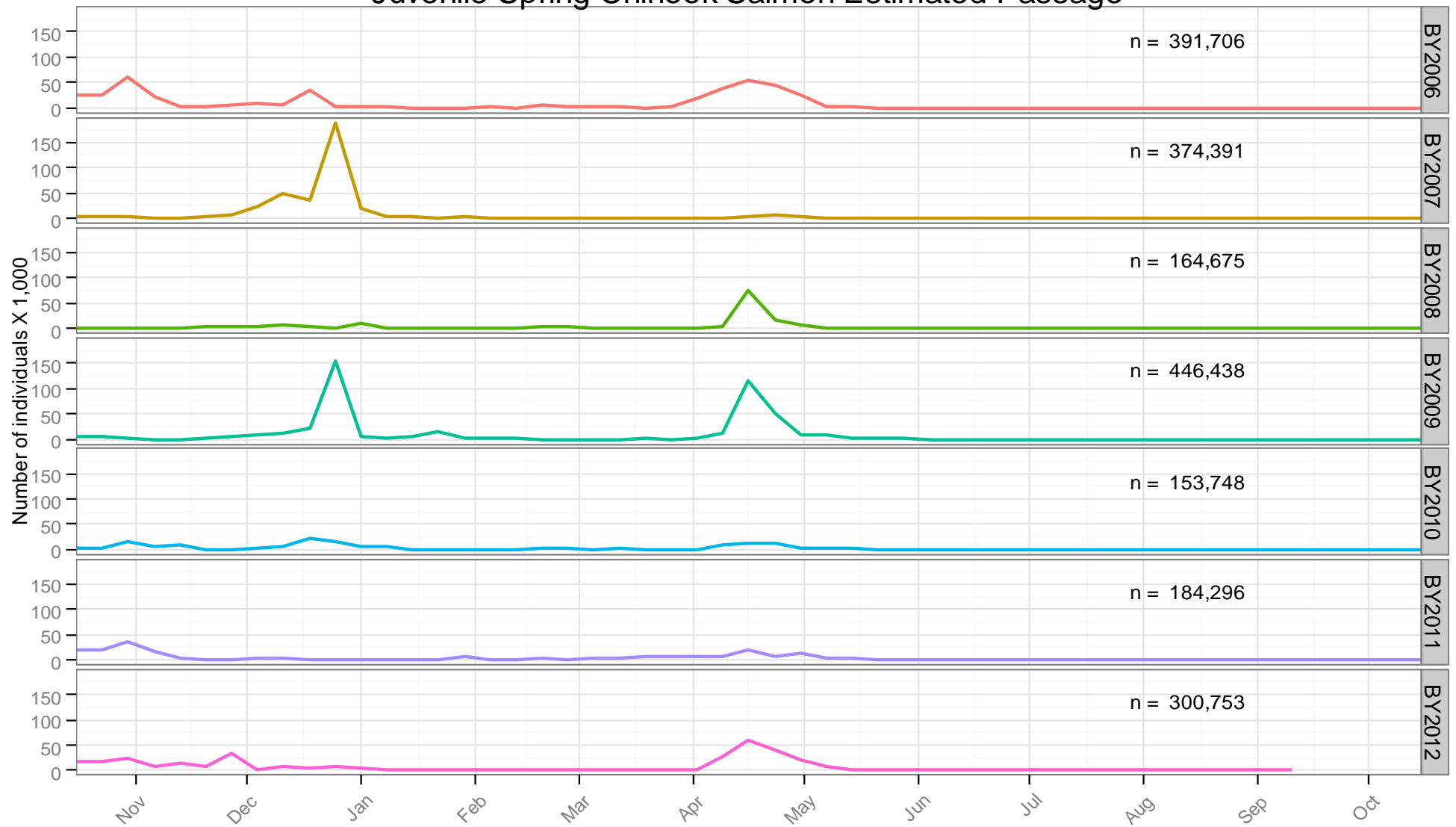


Figure 2. Weekly estimated passage of juvenile Spring Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period October 16 2006 to present .

Juvenile *Onchorhynchus mykiss* Estimated Passage

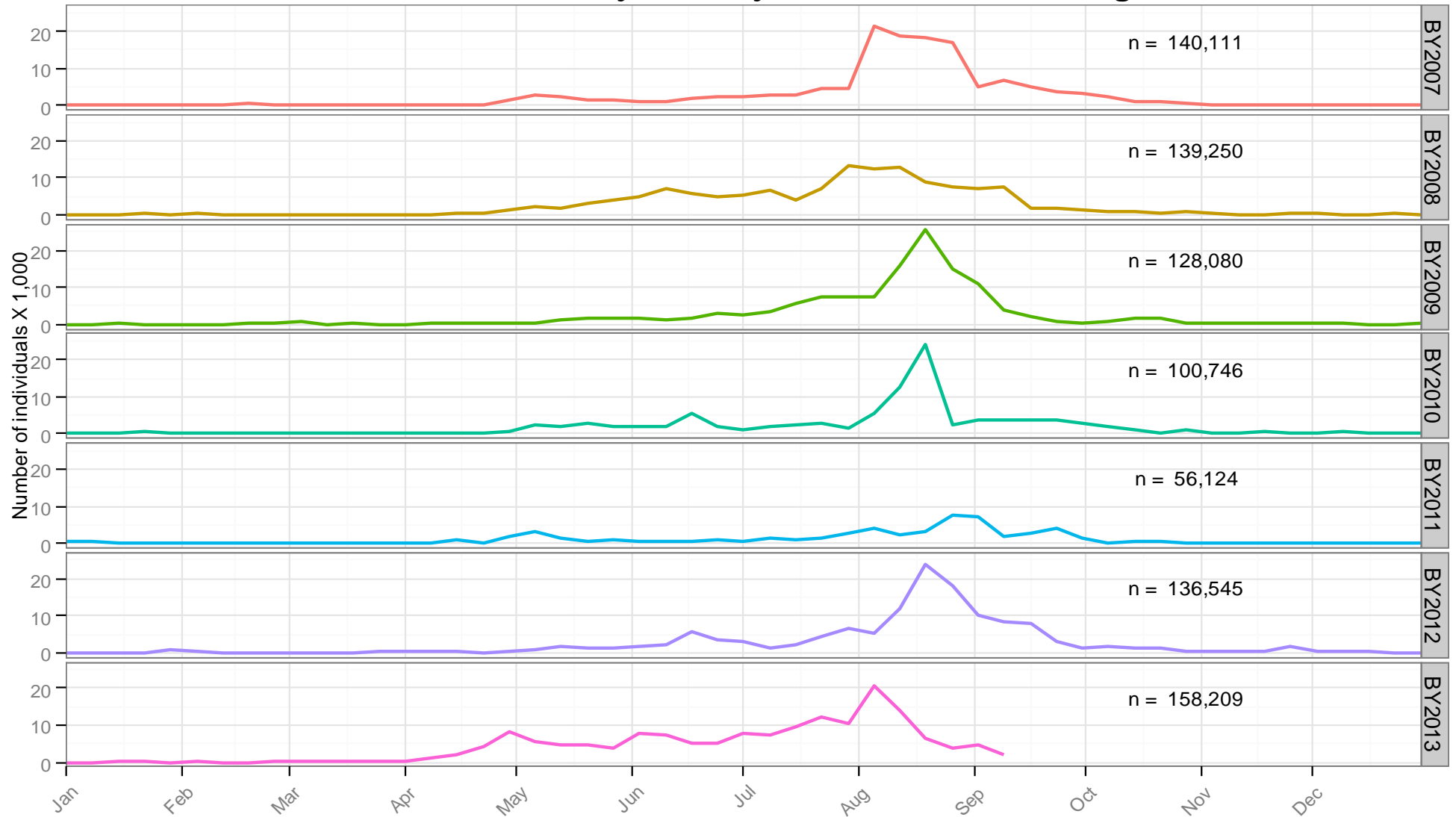


Figure 3. Weekly estimated passage of juvenile Rainbow/Steelhead trout at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period January 1 2007 to present .

Juvenile Fall Chinook Salmon Estimated Passage

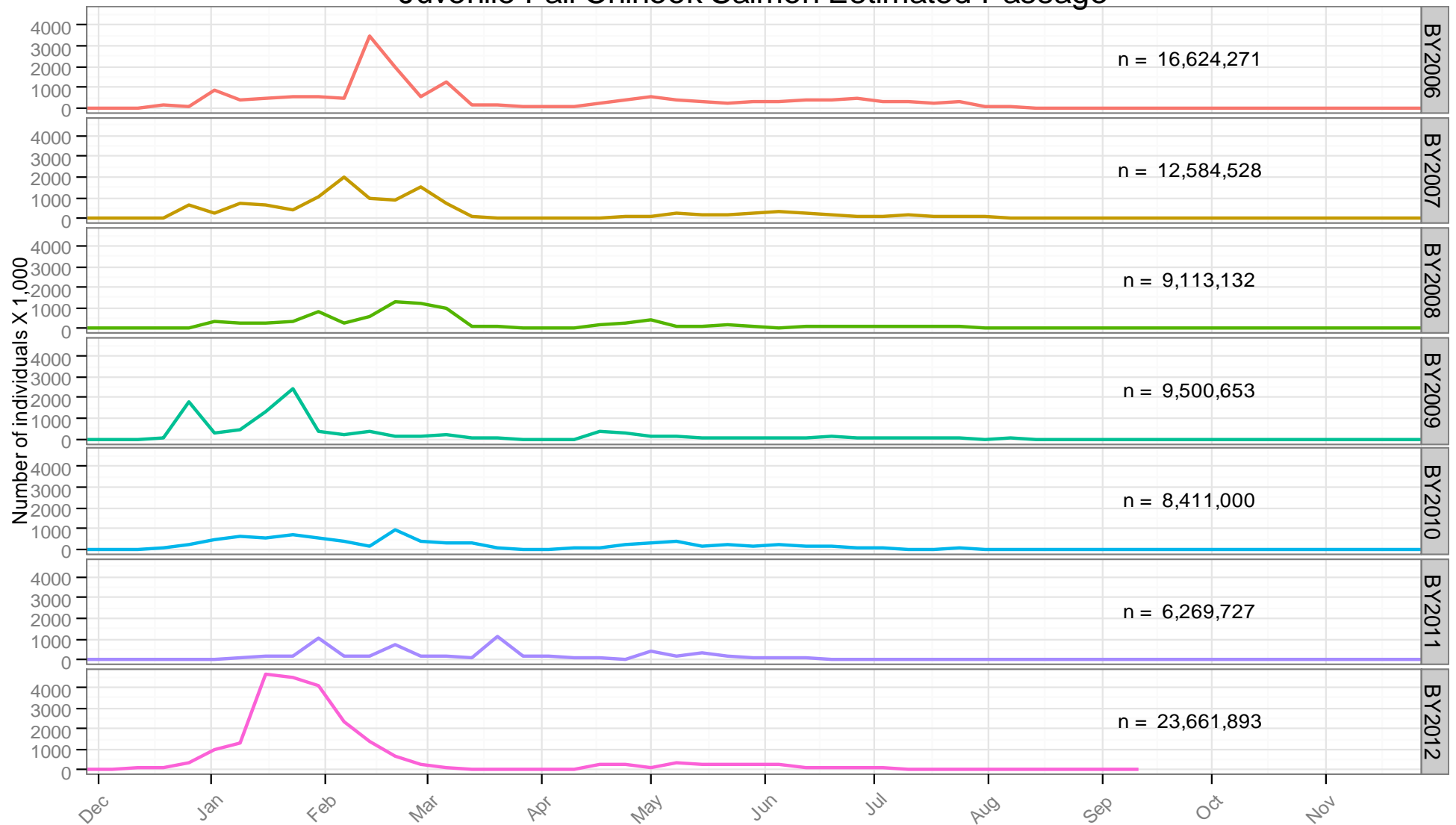


Figure 4. Weekly estimated passage of juvenile Fall Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period December 1 2006 to present.

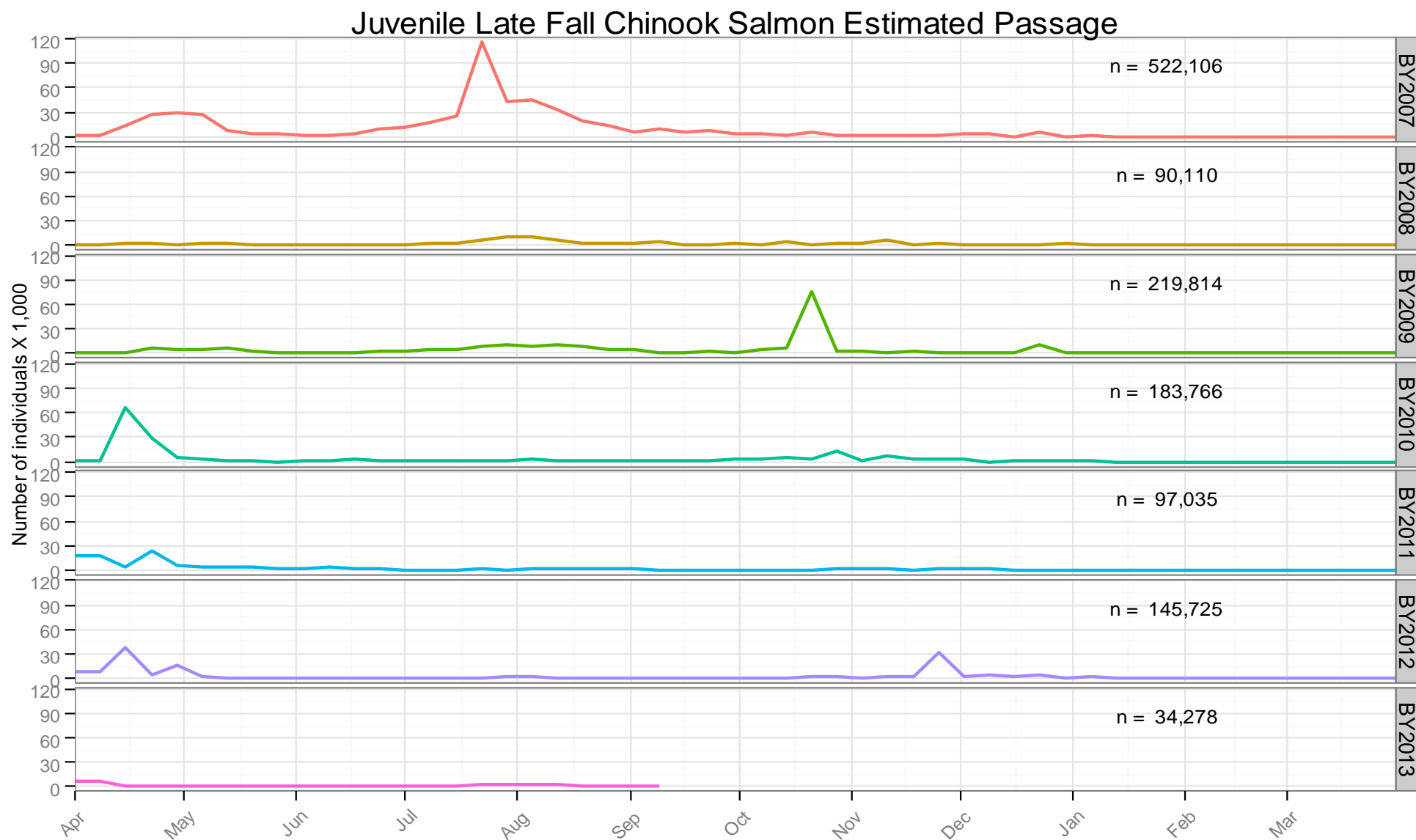


Figure 5. Weekly estimated passage of juvenile Late Fall Chinook Salmon at Red Bluff Diversion Dam (RK391), by brood-year (BY). Fish were sampled using rotary-screw traps for the period April 1 2007 to present .

Weekly Estimated Chinook Passage at Red Bluff Diversion Dam - All Runs Combined

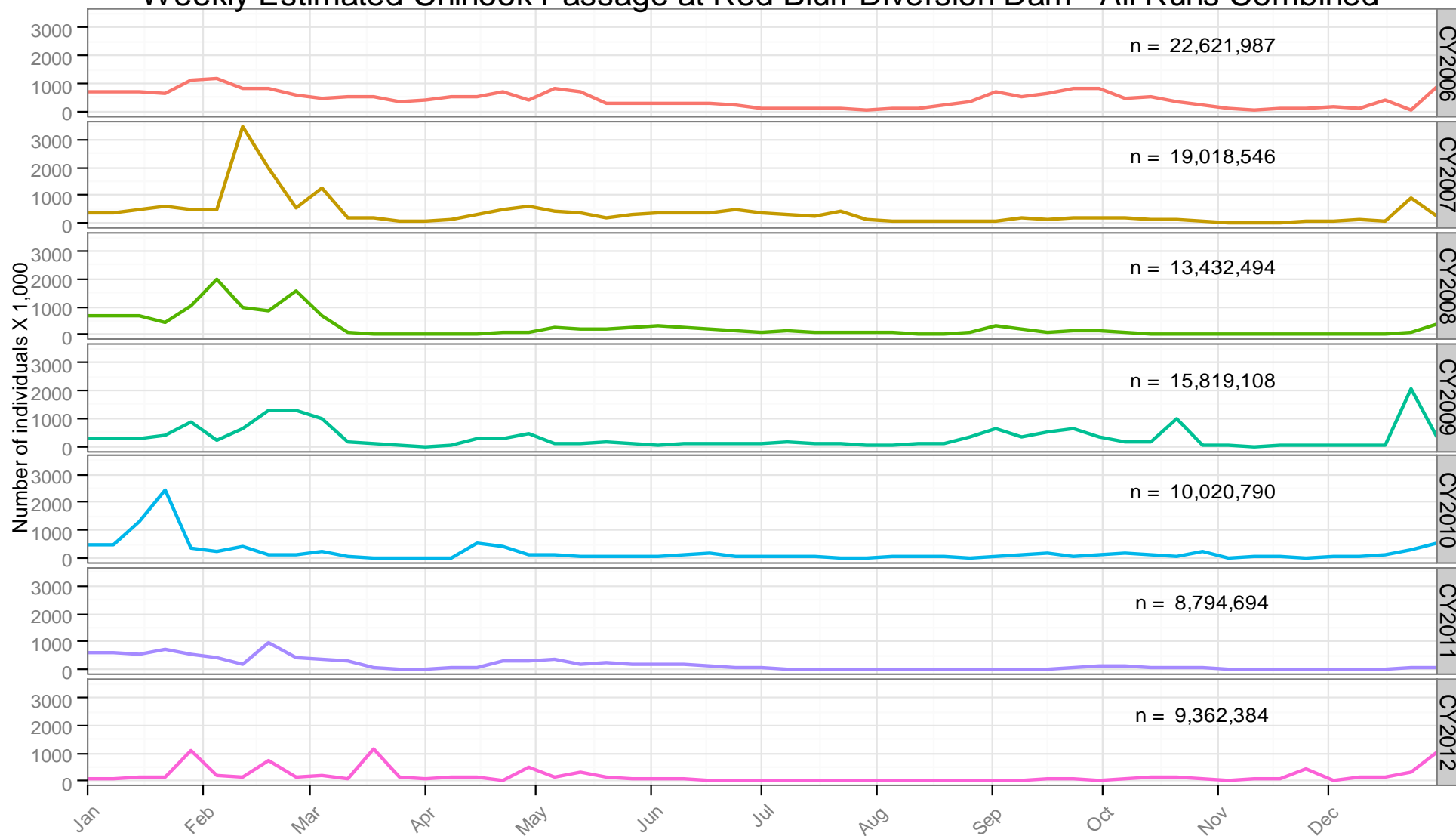


Figure 6. Weekly estimated passage of juvenile Chinook Salmon at Red Bluff Diversion Dam (RK391), by calendar year. Fish were sampled using rotary-screw traps for the period January 1 2006 to December 31 2012